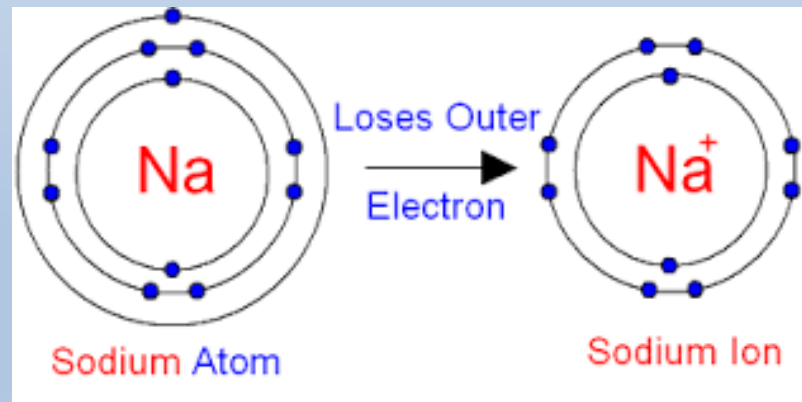


Forming ions

- An ion is a positively or negatively charged atom or molecule.
- When a atom **loses or gains electrons**, the balance between positive and negative charges no longer exists and the atom becomes charged.



Examples:

Two Types of Compounds (TB 6.1)

1. Ionic Compounds
2. Molecular Compounds

Ionic Compounds

- Ions form when one or more electrons move from a metal atom to a non-metal atom.

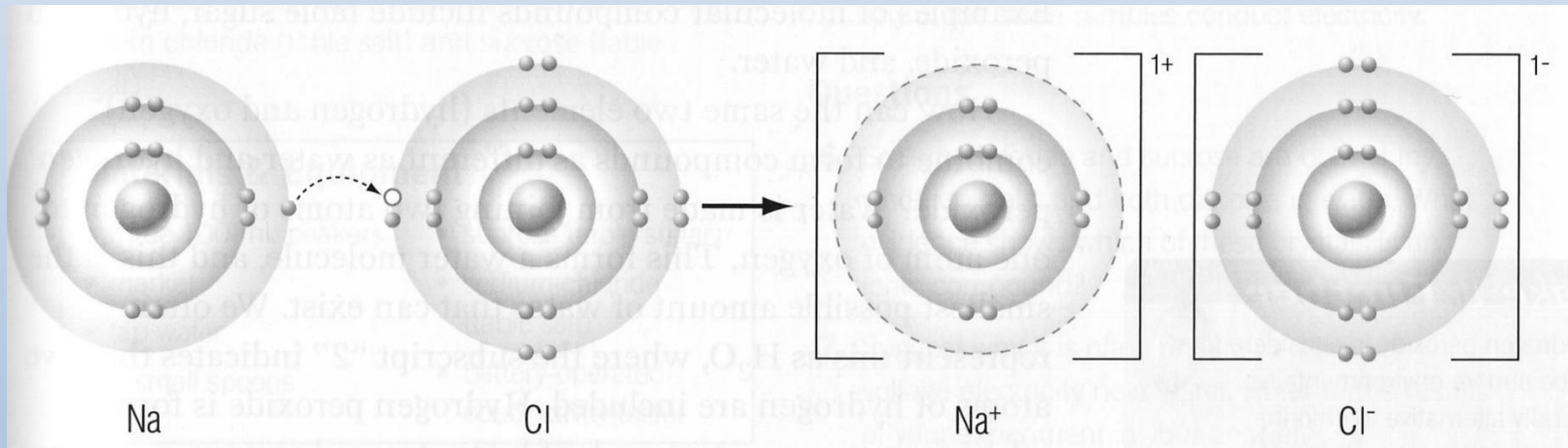
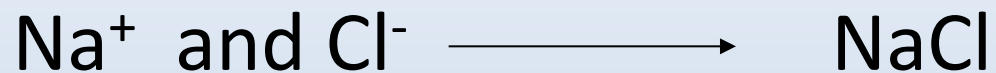


Figure 6.4: A sodium atom becomes a positive ion when it loses an electron to chlorine. By gaining an electron, chlorine becomes chloride, a negative ion. Together, they form an ionic compound.

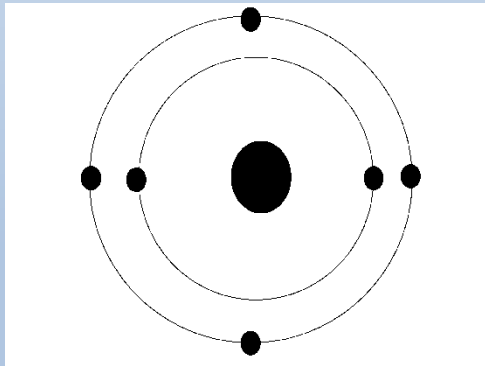
Examples:



Molecular Compounds

Forming Compounds

- Compounds are a combination of two or more atoms
- Atoms are held together by bonds
- Bonds represent the **sharing** of electrons.
- How many valence electrons in the following?

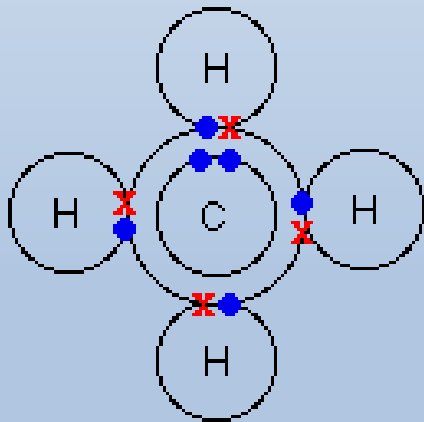


carbon

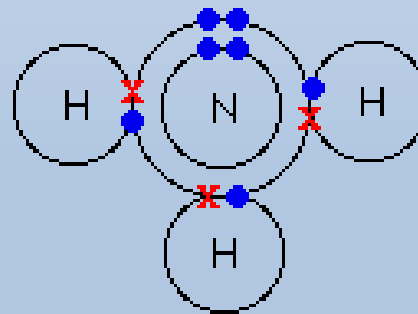
- From between 2 or more non-metals

1A																8A																			
1 H 1.008																2 He 4.003																			
3 Li 6.941		4 Be 9.012														5 B 10.81		6 C 12.01		7 N 14.01		8 O 16.00		9 F 19.00		10 Ne 20.18									
11 Na 23.00		12 Mg 24.31		3B		4B		5B		6B		7B		8B				1B		2B		13 Al 26.98		14 Si 28.09		15 P 30.97		16 S 32.06		17 Cl 35.45		18 Ar 39.95			
19 K 39.10		20 Ca 40.08		21 Sc 44.96		22 Ti 47.90		23 V 50.94		24 Cr 52.00		25 Mn 54.94		26 Fe 55.85		27 Co 58.93		28 Ni 58.70		29 Cu 63.55		30 Zn 65.38		31 Ga 69.72		32 Ge 72.59		33 As 74.92		34 Se 78.96		35 Br 79.90		36 Kr 83.80	
37 Rb 85.47		38 Sr 87.62		39 Y 88.91		40 Zr 91.22		41 Nb 92.91		42 Mo 95.94		43 Tc (98)		44 Ru 101.1		45 Rh 102.9		46 Pd 106.4		47 Ag 107.9		48 Cd 112.4		49 In 114.8		50 Sn 118.7		51 Sb 121.8		52 Te 127.6		53 I 126.9		54 Xe 131.3	
55 Cs 132.9		56 Ba 137.3		57 La 138.9		72 Hf 178.5		73 Ta 180.9		74 W 183.9		75 Re 186.2		76 Os 190.2		77 Ir 192.2		78 Pt 195.1		79 Au 197.0		80 Hg 200.6		81 Tl 204.4		82 Pb 207.2		83 Bi 209.0		84 Po (209)		85 At (210)		86 Rn (222)	
87 Fr (223)		88 Ra 226.0		89 Ac 227.0		104 Rf (261)		105 Ha (262)		106 Unh (263)		107 Uns (262)				109 Une (267)																			
Lanthanides		58 Ce 140.1		59 Pr 140.9		60 Nd 144.2		61 Pm (145)		62 Sm 150.4		63 Eu 152.0		64 Gd 157.3		65 Tb 158.9		66 Dy 162.5		67 Ho 164.9		68 Er 167.3		69 Tm 168.9		70 Yb 173.0		71 Lu 175.0							
Actinides		90 Th 232.0		91 Pa 231.0		92 U 238.0		93 Np 237.0		94 Pu (244)		95 Am (243)		96 Cm (247)		97 Bk (247)		98 Cf (251)		99 Es (252)		100 Fm (257)		101 Md (258)		102 No (259)		103 Lr (260)							

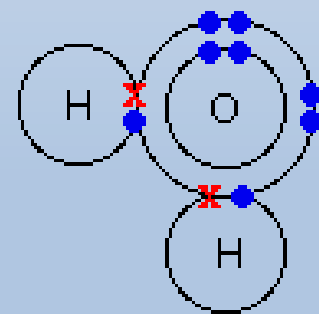
- Electrons are shared between 2 atoms
- These shared electrons are called a covalent bond
- These shared electrons are called a covalent bond



methane



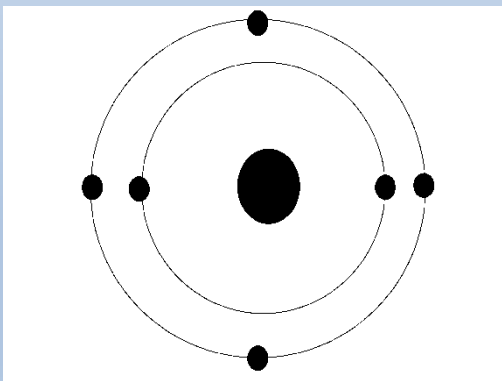
ammonia



water

Draw Bohr-Rutherford diagrams to show molecular bonding in

- CH_4 (methane)
- CO_2 (carbon dioxide)



Create and Complete this chart comparing Ionic and Molecular Compounds

Criteria	Ionic	Molecular
Type of elements		
Electrons (transferred or shared)		
What holds compound together?		Covalent bond
Example		

Homework

- Read p.210 to 214
- Answer questions:
 - Page 213 #1 to 5
 - Page 217 #2, 3, 5, 6